

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION



MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No. MO-0026301

Owner: City of Cabool
Address: PO Box 710, 618 Main Street, Cabool, MO 65689

Continuing Authority: Same as above
Address: Same as above

Facility Name: Cabool Wastewater Treatment Facility
Facility Address: PO Box 710, 618 Main Street, Cabool, MO 65689

Legal Description: SW ¼, NE ¼, SE ¼, Sec. 12, T28N, R11W, Texas County
Latitude/Longitude: Outfall #001 - +3708039/-09204493
Outfall #002 - +3707204/-09205287

Receiving Stream: Big Piney River R2 (P)
First Classified Stream and ID: Big Piney River R2 (P)(01578)
USGS Basin & Sub-watershed No.: (10290202-010001)
is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

FACILITY DESCRIPTION

Outfall #001 - Subsurface Discharge From POTW - SIC #4952
Two cell aerated lagoon/three storage cells/eighteen infiltration basins/sludge retained in lagoon.
Design population equivalent is 8,000.
Dry weather design flow is 800,000 gallons per day.
Actual flow is 800,000 gallons per day.
Design sludge production is 97 dry tons/year.
Actual sludge production is 97 dry tons/year.
This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

September 15, 2006
Effective Date


Doyle Childers, Director, Department of Natural Resources
Executive Secretary, Clean Water Commission

September 14, 2011
Expiration Date
MO 780-0041 (10-93)

Gary L. Gaines, P.E., Director, Southeast Regional Office

FACILITY DESCRIPTION (continued)

Outfall #002 - POTW Lagoon Discharge Structure

Seasonal discharge.

Design flow is 900,000 gallons per day.

Actual flow is 660,000 gallons per day.

Outfall #003

Combined discharge from emergency overflow weir Outfall #002.

Flow is dependent upon precipitation.

					PAGE NUMBER 3 of 7	
A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					PERMIT NUMBER MO-0026301	
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall #001</u> (Notes 1 and 2)						
Flow	MGD	*		*	once/weekday**	24 hr. estimate
Biochemical Oxygen Demand ₅ ***	mg/L		30	20	once/month	grab
Total Suspended Solids***	mg/L		30	20	once/month	grab
pH - Units	SU	****		****	once/month	grab
Ammonia as N	mg/L			*	once/month	grab
Fecal Coliform	#/100mL	*		*	once/month	grab
<u>Outfall #002</u> (Note 3)						
Flow	MGD	*		*	once/weekday**	24 hr. total
Biochemical Oxygen Demand ₅ ***	mg/L		65	45	once/week	grab
Total Suspended Solids***	mg/L		110	70	once/week	grab
pH - Units	SU	****		****	once/week	grab
Ammonia as N	mg/L	12		12	once/month	grab
Fecal Coliform	#/100mL			*	once/month	grab
Oil and Grease	mg/L	15		10	once/month	grab
<u>Outfall #003</u> (Note 4)						
Flow	MGD	*		*	once/day	24 hr. estimate
Biochemical Oxygen Demand ₅ ***	mg/L	45			once/day	grab
Total Suspended Solids***	mg/L	70			once/day	grab
pH - Units	SU	****		****	once/day	grab
Ammonia as N	mg/L	12		12	once/day	grab
Fecal Coliform	#/100mL			*	once/day	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE <u>October 28, 2006</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
B. STANDARD CONDITIONS						
IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Parts I, II, III STANDARD CONDITIONS DATED <u>October 1, 1980 and August 15, 1994</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.						

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					PAGE NUMBER 4 of 7	
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		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Instream Monitoring</u> (Notes 5 and 6) Flow	MGD			*	once/weekday**	24 hr. estimate
pH - Units	SU			*	once/month	grab
Temperature	°F			*	once/month	grab
Dissolved Oxygen*****	mg/L			*	once/month	grab
Ammonia as N	mg/L			*	once/month	grab
Nitrate plus Nitrite	mg/L			*	once/month	grab
Fecal Coliform	#/100mL			*	once/month	grab
Orthophosphate as P	mg/L			*	once/month	grab
Oil and Grease	mg/L			*	once/month	grab
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MO 780-0010 (8/91)

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

- * Monitor and report.
- ** Sample once each weekday means: Monday, Tuesday, Wednesday, Thursday, and Friday.
- *** This facility is required to meet a removal efficiency of 65% or more.
- **** pH is measured in pH units and is not to be averaged. The pH is to be maintained at or above 6.0 pH units.
- ***** Dissolved oxygen measurements shall be taken within 30 minutes of sunrise.

Note 1 - The hydraulic load applied to each infiltration basin shall be recorded and shall be maintained and available for review. Measurement frequency shall be each day an infiltration basin is loaded. The data recorded shall include the loading date, basin number, and hydraulic load applied to the basin,

Note 2 - This is a subsurface discharge into the Big Piney River. The sample location for Outfall #001 is the monitoring well located east of infiltration basin number 17.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

Note 3 - A discharge from Outfall #002 is allowable from November 1 through March 31 of each year. No discharge is allowable from April 1 through October 31. A sample of the discharge from Outfall #002 is not required if there is a discharge from the emergency overflow structure during the entire sampling period for Outfall #002. When a sample for Outfall #002 is not required as stated above the permittee should report "no discharge" for the parameters listed for Outfall #002 for that reporting period.

- (a) The allowable discharge rate from this outfall shall be based on the streamflow rate. The allowable discharge from this outfall shall be based on a ratio of five (5) parts stream flow to one (1) part effluent (i.e. streamflow 5 MGD, allowable discharge rate 1 MGD). Streamflow shall be measured at the stream gaging station located approximately 100 feet east of infiltration basin number 9. A minimum streamflow of 1.0 MGD is required.
- (b) The outfall location and sample location shall be the controlled discharge at the discharge structure located on the south berm of cell five.

Note 4 - Outfall #003 is the combination of the discharge from the emergency overflow weir and from the Outfall #002 control gate. The emergency overflow weir is located in the same concrete structure as the Outfall #002 control gate. A discharge from the emergency overflow weir is allowable only under the following conditions:

- (a) The maximum hydraulic loading for Outfall #001 (infiltration basins) is being applied. The maximum hydraulic load to the infiltration basins for the purposes of regulating Outfall #003 is considered to be the sustained hydraulic load which results in the ponding of effluent in the infiltration basins with all of the basins in use;
- (b) The maximum hydraulic loading for Outfall #002 (controlled discharge) is being applied, if applicable. The maximum hydraulic load to the controlled discharge for the purposes of regulating Outfall #003 is considered to be 20 percent of the measured stream flow.
- (c) The two storage cells, and all of the lagoon cells, are filled.
- (d) All reasonable and prudent measures have been taken to avoid discharging from the emergency overflow weir. These measures should include, but are not limited to: Full utilization of Outfall #001 (infiltration basins) and Outfall #002 (controlled discharge) in the days preceding the discharge; and maintenance of the infiltration basins per the procedures outlined in the operation and maintenance manual.

The outfall and sample location shall be the discharge from the concrete apron located adjacent to the Outfall #002/emergency overflow structure.

The sampling frequency for Outfall #003 shall be of one sample per day for each day there is a discharge from the emergency overflow weir and is required whether or not Outfall #002 is discharging. For each monitoring period there is no discharge from the emergency overflow weir the permittee shall report "no discharge" for the parameters listed for Outfall #003 for that reporting period.

Following a discharge event from Outfall #003 a report shall be submitted with the monthly monitoring report outlining: 1) The events leading up to the discharge from Outfall #003; 2) The utilization of Outfalls #001 and #002 prior to the discharge; and 3) The measures taken to prevent the discharge from Outfall #003 occurring.

Note 5 - During a discharge event from Outfall #003, the measurement frequency for this parameter shall be daily.

Note 6 - The sample location for instream monitoring of the Big Piney River shall be located approximately 40 feet north of infiltration basin number 18, just upstream of the railroad bridge, in the N 1/2, Sec. 6, T28N, R11W, Texas County.

C. SPECIAL CONDITIONS

1. This permit may be reopened and modified, or alternatively revoked and reissued, to:
 - (a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
 - (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
 - (2) controls any pollutant not limited in the permit.
 - (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
 - (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.

2. All outfalls must be clearly marked in the field.
3. Permittee will cease discharge by connection to areawide wastewater treatment system within 90 days of notice of its availability.
4. Changes in Discharges of Toxic Substances

The permittee shall notify the Director as soon as it knows or has reason to believe:

- (a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
 - (1) One hundred micrograms per liter (100 µg/L);
 - (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,5 dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
 - (3) Five (5) times the maximum concentration value reported for the pollutant in the permit application;
 - (4) The level established in Part A of the permit by the Director.
 - (b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant, which was not reported in the permit application.
5. Report as no-discharge when a discharge does not occur during the report period.

C. SPECIAL CONDITIONS (continued)

6. General Criteria. The following water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
 - (a) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
 - (b) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
 - (c) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
 - (d) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
 - (e) There shall be no significant human health hazard from incidental contact with the water;
 - (f) There shall be no acute toxicity to livestock or wildlife watering;
 - (g) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
 - (h) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.
7. Sludge and Biosolids Use For Domestic Wastewater Treatment Facilities
 - (a) Permittee shall comply with the pollutant limitations, monitoring, reporting, and other requirements in accordance with the attached permit Standard Conditions.
 - (b) If sludge is not removed by a contract hauler, permittee is authorized to land apply biosolids that are removed from the domestic wastewater treatment lagoon during lagoon clean-out and maintenance activities. Permit Standard Conditions, Part III shall apply to the land application of biosolids. Permittee shall notify the department at least 180 days prior to the planned removal of biosolids from the lagoon. The department may require submittal of a biosolids management plan for department review and approval as determined appropriate on a case-by-case basis.
8. The permittee shall maintain records of all wet weather bypassing from the collection system and at the sewage treatment plant. These records shall document the duration and dates of the bypassing, the magnitude of the precipitation event causing the bypass, and the route of flow of the bypass (i.e. street name, street address, creek name, etc., attach map as required to accurately document route of flow). A description of incidents of bypassing along with the above information shall be included in narrative form with the discharge monitoring reports.
9. The permittee shall submit an annual report, which shall be submitted with the last regular monitoring report of each year, which addresses measures taken to locate and eliminate sources of infiltration and inflow into the City's collection system.



Missouri Department of Natural Resources
Water Protection Program
Water Pollution Control Branch
NPDES Permits and Engineering Section

Water Quality Review Sheet Check List
Lagoon Operating Permit Renewal

Facility Information

Facility Name: City of Cabool WWTF Permit #: MO-0026301
Facility Type: 3 Cell Lagoon with 18 Infiltration Basins Age: 18+ Years

Outfall Characteristics

Outfall	Design Flow (MGD)	Actual Flow (MGD)	Actual Flow/Design Flow
001	.8	.8	100%
002	.9	.667	74%

Effluent Characteristics

Biochemical Oxygen Demand (BOD5) In Compliance ☒ Significant Noncompliance ☐
Total Suspended Solids (TSS) In Compliance ☒ Significant Noncompliance ☐
Percent Removal (>65%) BOD & TSS In Compliance ☒ Significant Noncompliance ☐ N/A ☐

Effluent Limit/Monitoring Requirement Frequency at regulatory minimum: Yes ☒ No ☐

Receiving Waterbody Information

Waterbody Name: Big Piney River R2 Class: P
Waterbody Name: Big Piney River R2 Class: P

Discharge to or within two (2) miles of a losing stream (10 CSR 20-7.031, Table J or as determined by GSRAD) ☐

Discharge to or within two (2) miles of a classified waterbody designated for whole body contact recreation ☒

Use Attainability Analysis Conducted ☐

Stream Survey Conducted within the past five (5) years ☐ Observed water quality impacts ☐

If the facility discharges to any of the waterbody types below, is within an area experiencing rapid development, or if a site-specific water quality impact study has been conducted, this form is not applicable.

Lake/Reservoir ☐ 303(d) Waterbody ☐ Metropolitan No-Discharge Stream ☐
Outstanding National/State Resource Water and Drainages Thereto ☐